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Avian Influenza

A Threat to U.S. Poultry

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RECORDS

U.S. DEPT. OF AGRICULTURE
HALL OF RECORDS



Avian Influenza

A Threat to U.S. Poultry

Avian influenza is an acute, highly infectious, contagious viral disease of poultry. The severity of the disease varies from inapparent or mild to fatal. The more lethal strains of the disease can devastate commercial poultry operations.

Avian influenza does not affect humans.

Avian influenza viruses are members of the type A influenza virus group, genus *Influenzavirus*, family *Orthomyxoviridae*.

The disease is very infectious and, once established within the poultry population in an area, can spread rapidly from flock to flock in the absence of control measures.

Avian Influenza viruses have been found in numerous species of wild and domesticated birds. Usually, wild species do not develop the disease, but some strains of influenza cause severe illness or death rates in chickens, turkeys, and guinea fowl.

Signs

Lethal strains of the virus can strike so quickly, particularly in young chickens, that there may be no clinical signs other than sudden death.

In other instances, the following signs may be seen:

- Ruffled feathers
- Sudden drop in egg production
- Soft-shelled eggs
- Depression and droopiness
- Loss of appetite
- Cyanosis (purplish-blue coloring) of wattles and combs
- Edema and swelling of head, eyelids, comb, wattles, and hocks
- Diarrhea
- Blood-tinged discharge from the nostrils
- Incoordination, including loss of ability to walk and stand
- Pin-point hemorrhages
- Increased death losses in a flock

Post-Mortem Lesions

Edema (swelling) of the face and area below the beak is common. Removing skin from the carcass will show a clear, straw-colored fluid in the subcutaneous tissues.

Blood vessels are usually engorged. Hemorrhage may be seen in the trachea, proventriculus, and beneath the lining of the gizzard. The lining of the gizzard may be easily removed.

Other areas likely to show swelling and hemorrhages include along the breast bone as well as in the heart fat, gizzard fat, and abdominal fat.

Young broilers may show signs of severe dehydration with other lesions less pronounced or absent entirely.



**Affected layer flock with high death loss.*



Swelling of the head and cyanosis of the comb (right).



Subcutaneous hemorrhage of legs.

Confusion With Other Diseases

The external signs of avian influenza are very similar to those of other avian diseases. Avian influenza may be confused with infectious bronchitis, infectious laryngotracheitis, fowl cholera, and the various forms of Newcastle disease.

Laboratory tests are available to identify avian influenza virus and antibodies.

How It Spreads

Avian influenza virus can remain viable for long periods of time at moderate temperatures and may live indefinitely in frozen material. Therefore, the disease can be spread through improper disposal of infected carcasses, manure, or poultry byproducts.

The disease also can be easily spread by people and equipment contaminated with avian influenza virus. The virus adheres to clothing, shoes, egg flats, egg cases, equipment, and vehicles moved from infected flocks. Any object located on an infected poultry farm must be considered contaminated and should be completely cleaned and disinfected before it is moved from that premises. Clothing worn on an infected farm should be laundered or drycleaned.

Insects and rodents may mechanically carry the virus from infected to susceptible poultry.

Infection can also result from management practices other than "all in—all out" handling of poultry flocks.



Soft-shelled egg (center).



Swollen wattles and comb. Facial edema and swelling.



Turkey gasping

Prevention and Control

A vaccination program used in conjunction with strict quarantines has been used to control the mild form of the disease in turkeys. With the more lethal forms of the disease, however, indepth surveillance, strict quarantine, and rapid destruction of all infected flocks remain the only effective methods of stopping avian influenza. The success of such a program depends, of course, on the full cooperation and support of the industry affected.

What Can Poultry Owners Do?

As a poultry producer, you should take these extra precautions to prevent the entry of avian influenza into your flock:

- Secure the entry gates to your premises and lock all poultry buildings.
- Permit only essential persons entry to your farm and control their movement. Do not allow casual visitors.
- Provide proper clothing and cleaning and disinfection facilities for all persons entering your premises.



Swollen wattles and comb. Facial edema and swelling.



Turkey gasping, a respiratory sign.

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- Control the movement of all poultry and poultry products (including eggs) and equipment entering or leaving your premises. In layer flocks, accept only new or sanitized filler flats and egg cases.
- Exclude vaccination crews, catching crews, and other servicing personnel who may have been in contact with other poultry premises in the previous 24 hours.
- Implement a vector control program.
- Control movements associated with the disposal and handling of bird carcasses, litter, and manure.
- Maintain an "all in—all out" philosophy of management.
- Thoroughly clean and disinfect poultry house between each lot of poultry.
- Do not visit other poultry premises.

You, the poultry owner, are the first line of defense in identifying outbreaks of avian influenza.

If your birds develop signs of avian influenza or if you suspect exposure:

- IMMEDIATELY NOTIFY your local veterinarian and/or State or Federal livestock and poultry officials.

During avian influenza outbreaks in poultry, surveillance of wildlife has demonstrated that wild birds were not spreading the disease.



Affected turkey flock exhibiting signs of depression and abnormal posture.

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